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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,504	08/01/2001	Vincenzo Sestito	Q65588	3242
7590	12/21/2005		EXAMINER	
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037-3213			MURPHY, RHONDA L	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/918,504	SESTITO, VINCENZO
	Examiner	Art Unit
	Rhonda Murphy	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 06 September 2005.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-9 and 11-17 is/are rejected.  
 7) Claim(s) 10 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 01 August 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This communication is responsive to the amendment filed on September 6, 2005. Accordingly, claims 1-17 are currently pending in this application.

### *Claim Objections*

1. Claim 13 is objected to because of the following minor informality: The period at the end of claim 13 is duplicated and one period shall be deleted. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5, 11-12 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Usuba et al. (US 6,614,754).

**Regarding claim 1**, Usuba teaches a method of re-routing a path in a terrestrial Multiplex Section Shared Protection Ring network in the event of a failure in a span of said path (col. 1, lines 33-37; a BLSR network in SONET is equivalent to

Multiplex Section Shared Protection Ring (MS-SPRing) in SDH), said ring network comprising network elements connected in a ring configuration through fiber spans (Fig. 3), said fiber spans comprising high-priority channels and low-priority channels (working and protection channels), said method comprising the step of performing a ring switch action by the MS shared protection mechanism (col. 5, lines 48-59), wherein it further comprises the steps of: providing said path with a Time Slot Interchange mechanism, thus obtaining a Time Slot Interchange path wherein different high priority time slots are occupied in different path spans (col. 5, lines 48-59; col. 8, lines 1-3); providing each time slot with an index such that each high priority time slot in a span has a corresponding low priority time slot (col. 5, lines 67; col. 6, lines 1-5); and in the even of span failure, re-routing at least one high priority channel which would have occupied an allocated high priority time slot in the failed span over a selected low priority time slot in an adjacent non-failed span, said selected low priority time slot being selected based on said allocated high priority time slot of the failed span (col. 5, lines 48-67; col. 6, lines 1-5; the working channel time slot corresponds to the protection channel time slot).

**Regarding claim 5**, Usuba further teaches a four-fiber network (col. 1, lines 33-40).

**Regarding claim 11**, Usuba further teaches the additional step of providing all the network elements involved in the Time-Slot Interchange path allocation with information concerning whole path allocation in the ring, namely in which node the Time-Slot Interchange path is dropped, inserted or is made to transit, on

which time slot the path in question is allocated and concerning possible concatenations present, distinguishing between East side and West side (col. 4, lines 20-26; the squelch map indicates a West side time slot number and East side time slot number; col. 4, lines 33-43)

**Regarding claim 12,** Usuba teaches a network element of a terrestrial Multiplex Section Shared Protection Ring network (BLSR network), said ring network comprising further network elements connected in a ring configuration through fiber spans (Fig. 3), said fiber spans comprising high-priority channels and low-priority channels (working and protection channels), said network element comprising means for performing ring switch actions, namely pass-through, bridge or switch actions, upon receipt of corresponding signalings (col. 3, lines 32-37); and means for generating and sending proper signalings upon receipt of corresponding signalings (col. 3, lines 29-37), a path being installed in said ring network, wherein said installed path is a path in time slot interchange where different high priority time slots are occupied in different path spans and each high priority time slot has a corresponding low priority time slot (col. 5, lines 67; col. 6, lines 1-5), and wherein said network element further comprises means for, in the event of a failure on a span of the installed path, re-routing the path over a selected low priority time slot of a non-failed span, the selected low priority time slot being selected based at least in part on an allocated time slot which would have been used on the failed span in the absence of said failure (col. 5, lines 48-67; col. 6, lines 1-5; the working channel time slot corresponds to the protection channel time slot).

**Regarding claim 16**, Usuba teaches a four-fiber ring network, wherein each time slot is associated with an index, and further wherein the value of the index of said selected low priority time slot bears a predetermined relationship to the index of said allocated high priority time slot (col. 1, lines 33-40; col. 2, lines 11-19; the working channel time slot corresponds to the protection channel time slot).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 6 – 9, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usuba in view of Ellinas et al. (US 6,760,302).

**Regarding claims 2 and 13**, Usuba teaches a further span affected by a failure, wherein the method further comprises the steps of: selecting one of the two failed spans; and using an allocated high priority time slot of the selected failed span as the allocated time slot on the basis of which the low priority time slot is selected for re-routing (col. 6, lines 1-5; col. 9, lines 15-23).

Usuba does not teach a further span affected by failure and selecting one of the two failed spans.

However, Ellinas teaches two link failures (Fig. 5) and activating the protection switches when each failure occurs and further transferring the data from the working fibers to the protection fibers (col. 10, lines 35-44).

In view of this, it would have been obvious to one skilled in the art to modify Usuba's method, by including an additional failure span and further switching the data from a working path to a protection path, in order to allow for a ring switching to occur between nodes when multiple spans are down.

**Regarding claim 6**, Usuba teaches said ring network as a four-fiber network, wherein the step of re-routing the Time-Slot Interchange path comprises the step of re-routing the path over the time slot of a low priority channels with index corresponding to the index of said time slot on the selected failed span (col. 1, lines 33-40; col. 9, lines 15-23, Fig. 16).

**Regarding claim 7**, the combined method of Usuba and Ellinas teach selecting a failed span. Usuba further teaches the step of selecting one of the two failed spans comprises the steps of: identifying switching nodes in failed path (col. 4, lines 46-48), each node being associated with an identification number (col. 4, lines 20-26). Since Usuba teaches maps indicating an order of the node IDs, it would have been obvious to have switching nodes with higher or lower ID numbers. Additionally, it would have been obvious to one skilled in the art to select the failed span adjacent to a switching node with a higher or lower ID number, since the adjacent node with the higher or lower ID number is capable of performing the switching process for the failed span.

**Regarding claim 8**, the combined method of Usuba and Ellinas teach selecting a failed span. Usuba further teaches the step of selecting one of the two failed spans comprises the steps of: identifying switching nodes in failed path (col. 4, lines 46-48), each node being associated with an identification number (col. 4, lines 20-26); providing a ring map with node order (col. 4, lines 20-26). Since Usuba teaches ordering of nodes, it would have been obvious for the switching nodes to be identified as first or last in the ring map. Additionally, it would have been obvious to one skilled in the art to select the failed span adjacent to a switching node that comes first or last, since the adjacent node that is first or last, is capable of performing the switching process for the failed span.

**Regarding claim 9**, the combined method of Usuba and Ellinas teach selecting a failed span. Usuba further the step of selecting one of the two failed spans comprises the step of: identifying switching nodes in failed path (col. 4, lines 46-48), each node being associated with an identification number (col. 4, lines 20-26); identifying East and West sides in the network (col. 4, lines 36-39). Since Usuba teaches nodes with East and West sides, it would have been obvious to one skilled in the art to select the failed span adjacent to the node on either the East or West side, since the failed span would be located in between the East side of one node and the West side of the other node.

**Regarding claim 17**, Usuba teaches said ring network as a four-fiber network, wherein each time slot is associated with an index, and further wherein the value of the index of said selected low priority time slot bears a predetermined relationship to the index of said allocated high priority time slot (col. 1, lines 33-

40; col. 5, lines 48-59; col. 6, lines 1-5; the working channel time slot corresponds to the protection channel time slot).

5. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usuba, in view of Chaudhuri (US 5,745,476).

**Regarding claims 3 and 14**, Usuba teaches a ring network as a two-fiber network (col. 1, lines 33-40) with high and low priority time slots.

Although, Usuba teaches an index, Usuba fails to teach an index of said selected low priority time slot given by the sum of half the overall number of time slots.

However, Chaudhuri teaches the index of said selected low priority time slot is given by the sum of half the overall number of time slots and the index of the allocated high-priority time slot on the failed span (col. 4, lines 7-20; use of time slots 1-8 for normal traffic and slots 9-16 for failure traffic). Furthermore, a signal assigned to slot 1 arrives at a node affected by a span failure and is switched onto a protection channel in slot 9 (col. 4, lines 7-20). In other words, Chaudhuri teaches a time slot number index (slot 9) representing the sum of half the number of handled channels (slot 1 + (16/2)).

In view of this, it would have been obvious to one skilled in the art, to incorporate the aforementioned index, for the purpose of assigning time slots using a technique that is more flexible and efficient.

6. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usuba and Ellinas, as applied to claim 2 above, and further in view of Chaudhuri (US 5,745,476).

**Regarding claims 4 and 15,** Usuba and Ellinas teach a ring as a two-fiber network (col. 1, lines 33-37). Usuba and Ellinas fail to teach to teach an index given by the sum of half the overall number of handled channels. However, Chaudhuri teaches the index of said selected low priority time slot is given by the sum of half the overall number of time slots and the index of the allocated time slot on the selected failed span (col. 4, lines 7-20; use of time slots 1-8 for normal traffic and slots 9-16 for failure traffic). Furthermore, a signal assigned to slot 1 arrives at a node affected by a span failure and is switched onto a protection channel in slot 9. In other words, Chaudhuri teaches a time slot number index (slot 9) representing the sum of half the number of handled channels (slot 1 + (16/2)).

In view of this, it would have been obvious to one skilled in the art, to incorporate the aforementioned index into Usuba and Ellinas' method, for the purpose of assigning time slots using a technique that is more flexible and efficient.

#### ***Allowable Subject Matter***

7. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

8. Applicant's arguments filed on 9/6/05 have been fully considered but they are not persuasive. The claims still reads upon Usuba's teaching of a time slot interchange system re-routing a working channel on a protection channel, using corresponding working channel time slots and protection channel time slots; wherein the time slot of the protection channel is selected based upon the time slot of the working channel.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is

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(571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy  
Examiner  
Art Unit 2667

rlm

  
CHI PHAM  
PERMISORY PATENT EXAMINER  
12/12/05